



Missouri S&T Magazine, June 1970

Miner Alumni Association

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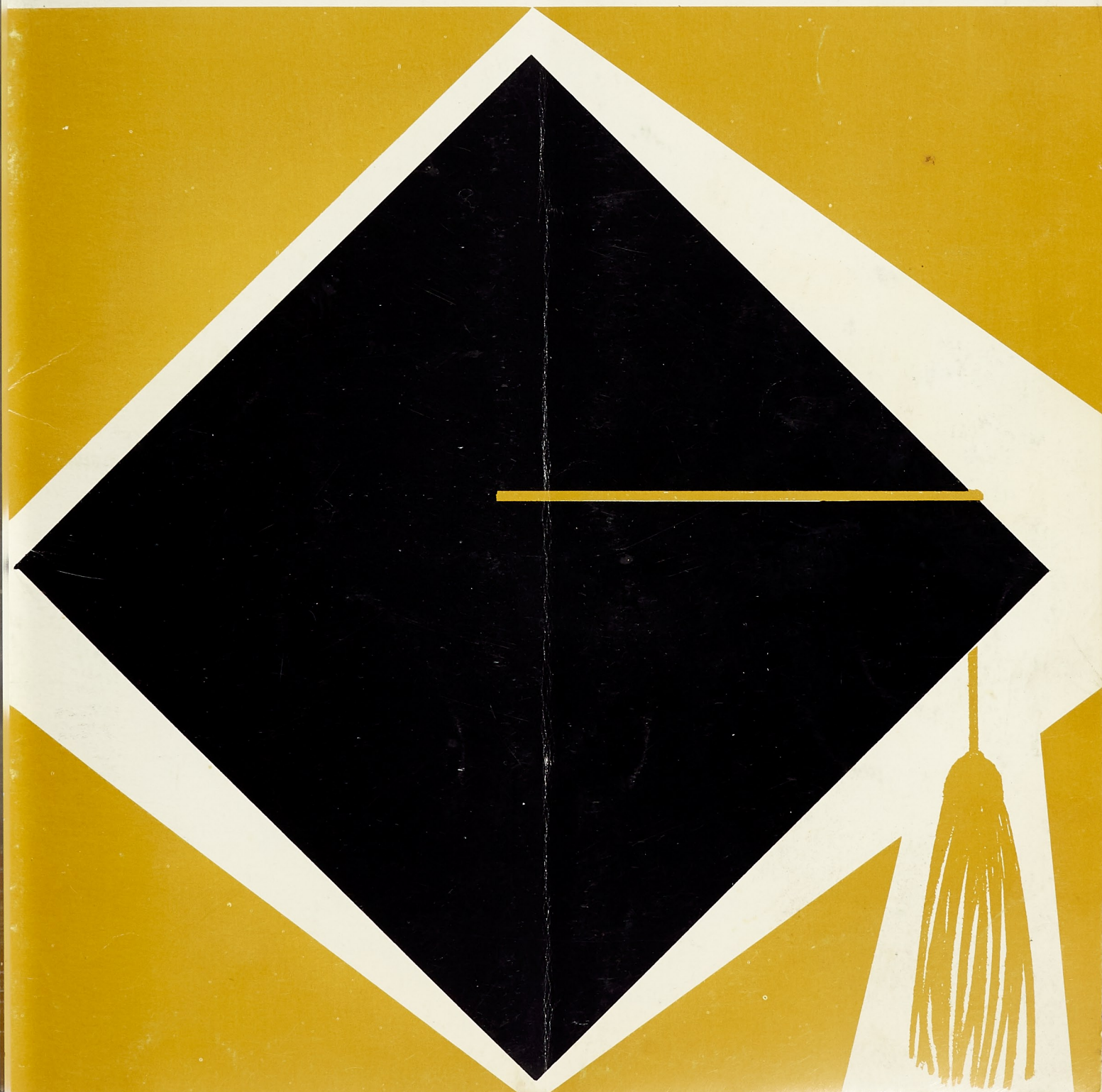
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JUNE 1970



Alumnus

UNIVERSITY OF MISSOURI - R O L L A

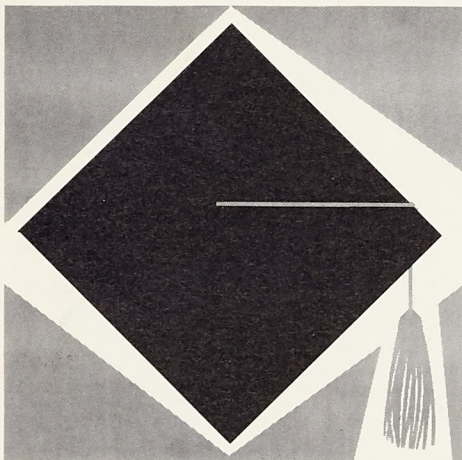




MSM Alumni Association
University of Missouri - Rolla
Rolla, Missouri 65401

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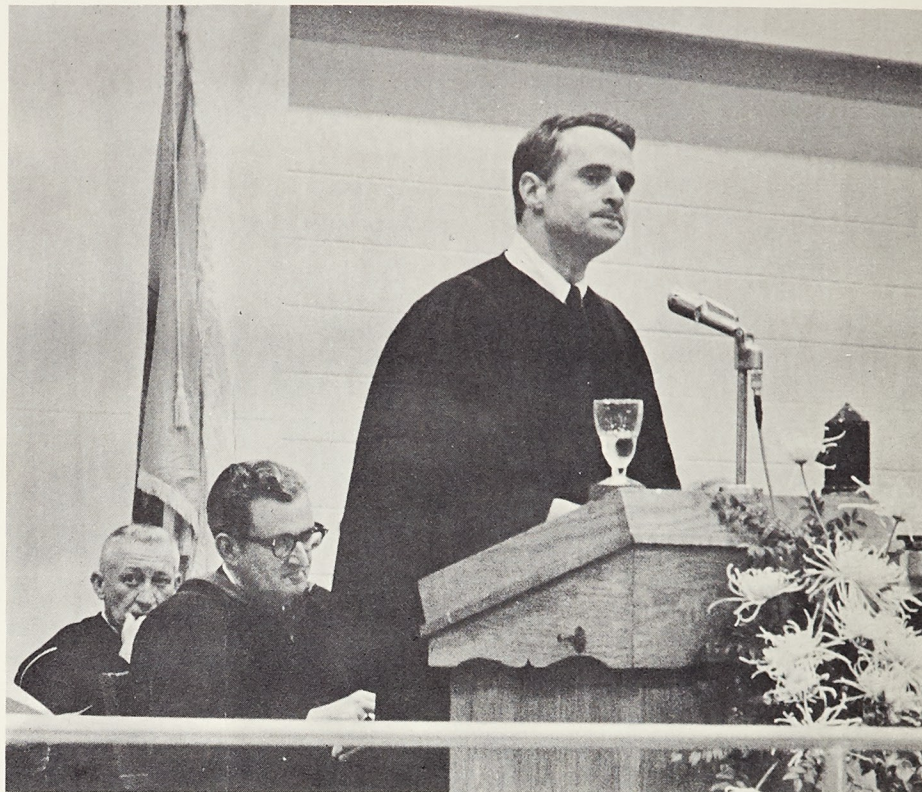
ON THE FRONT COVER



H. Ramon Sparling designed the cover for this issue of the ALUMNUS. Campus artist Sparling is noted for his creative talent and currently is seeking a grant to execute a major art work for the campus and the State of Missouri.

Issued bi-monthly in the interest of the graduates and former students of the Missouri School of Mines and Metallurgy and the University of Missouri - Rolla. Entered as second class matter October 27, 1926, at Post Office at Rolla, Missouri 65401, under the Act of March 3, 1897.

Senator Eagleton Addresses Grads



Eagleton Centennial Year Commencement Speaker

The ninety-seventh annual Commencement exercises were held May 31 in the Multi Purpose Building.

The Honorable Thomas F. Eagleton, United States Senator, State of Missouri, was the commencement speaker.

Setting the stage for his remarks, Senator Eagleton listed current problems facing the world and stated, "We are so inundated with frustrating, threatening issues that it is impossible to give a speech on any one of them without being guilty of inattention to all of the others. And 'the litany of current and long continuing crises is endless.'"

Senator Eagleton chose to devote his attention and the attention of his audience to the crisis in democratic problem solving. Problem solving is made more difficult when violence is interjected. Along with violence and the causes of violence, fear becomes a part of the processes.

To the frustrated, to the ignored of any group, of any age, or of any race, he counseled restraint. "Find your causes in the common human needs and common hopes that unite us, not in the fears and hatreds that divide us," he said.

His advice was, "Go home to your own communities and your Congressional Districts and States and work in this year's campaign. Learn how to use the system. Make it work for you. Don't be taken in by those few charlatans who would write it off as hopeless."

Senator Eagleton was presented a special plaque commemorating UMR's Centennial.

Some 608 degrees were awarded including 445 Bachelor Degrees; 132 Master Degrees; 31 Ph.D. Degrees; 12 Professional Degrees and 2 Doctor of Engineering (Honoris Causa) degrees.

The title of Emeritus was conferred upon Professor Gale Bullman.

MSM Alumnus

Recipients of Honorary Degrees

R:10/1/13



Left to right - Chancellor Merl Baker, Gilbert R. Shockley, John R. Soult and Dr. John C. Weaver, President, University of Missouri.

Awards to John R. Soult and Gilbert R. Shockley

John P. Soult, president and chairman of the board of the Fruin-Colnon Corp., St. Louis and Gilbert R. Shockley, executive vice president of Reynolds Research Corp., Richmond, Va., were awarded honorary doctor of engineering degrees at Spring Commencement exercises.

Soult holds a bachelor of science degree in civil engineering from UMR. He is a graduate of the Alexander Hamilton Business School and the Command and General Staff College at Leavenworth, Kansas. He received a professional civil engineering degree from UMR in 1959.

He joined Fruin-Colnon as a job engineer in 1939, progressing to the position of executive vice president in 1954 and to president in 1955. He became president and chairman of the board in 1967. Since then Fruin-Colnon has expanded geographically as well as in variety of work. The volume of the company has increased from \$12 million to \$67 million annually. Some of the firm's major projects include; the \$50 million Dundee Cement Company plant at Clarksville, Mo.; Busch Memorial Stadium in St. Louis with a 55,000 seating capacity; five academic and administrative buildings totalling \$25 million at Southern Illinois University, Edwardsville, Ill.; the substructure for the Thatcher Ferry Bridge in the Republic of Panama, Canal Zone; a

coke calcining plant in Venice, Italy.

Soult is also chairman of the board of four subsidiary corporations: Fruco and Associates, Inc.; Fruco Realty Co.; Industrial Investment Corp. and International Process Corp. He is a member of the American Society of Civil Engineers, the National Society of Professional Engineers, the American Society of Military Engineers, Associated General Contractors of St. Louis (past president) and Chi Epsilon Fraternity.

Shockley holds a bachelor of science degree in chemical engineering from UMR and a professional degree of chemical engineer from here. He joined the Reynolds Metal Company in 1961 as director of the product development division and was named to his current position in 1966.

Upon graduation from the Rolla Campus, he served as a chemical engineer with the Monsanto Company at its Anniston, Ala., plant. After three years in the Navy as an officer qualifying in both chemical warfare and aerology during World War II, he returned to Monsanto, first as Plant Engineer and then as Assistant Department Head. Shockley's varied experience has included sales engineer for the Goslin-Birmingham Manufacturing Company in Birmingham and Assistant Manager of the Filter Division of the Eimco Corp. in Salt Lake City. He

joined the Olin Mathieson Corp. in 1953 where he served as manager of chemical process development, director of research and development for the Aluminum Division and vice president, metals, for its International Division.

His experience in these positions involved complete management of organizational, financial, legal and technical aspects of programs involving French, Swiss, German and British interests. One of the projects involved responsibility for the construction of a \$140 million alumina plant in the Republic of Guinea with other international concerns.

Although most of his work has involved management of technical activities, he is a co-holder of two U.S. patents. He is active in the American Chemical Society, the American Institute of Chemical Engineers, the Society of Automotive Engineers and the American Institute of Aeronautics and Astronautics. Shockley also is a member of the Army Ordinance Association and is active in the U.S. Chamber of Commerce in which he is a member of the Science and Technology Committee. He is a member of the Patent System Advisory Panel and Chairman of the Sub-committee on Department of Commerce Technical Programs. He also is a member of the New York Academy of Science and the University Club of New York.



Jim Murphy (right) Alumni Association President, is joined by Mrs. John C. Weaver, wife of the University of Missouri, President and Mrs. Murphy (left) in wishing the best of everything to Gale Bullman in his retirement.

Coach Bullman Named Professor Emeritus

Professor Gale Bullman was conferred the title of Emeritus at the May Commencement.

Professor Bullman joined the staff in 1937 as chairman of the department of physical education and intercollegiate athletics, head football and track coach.

Gale was born at Sistersville, West Virginia, graduated from Marietta, Ohio High School and took pre-legal training at West Virginia Wesleyan College and received his J. D. degree from Washington University, St. Louis, Mo.

In high school and college he participated in baseball, basketball, football and track. He played semi-pro baseball and professional football. He was captain of the West Virginia Wesleyan football team, in 1924, when it was ranked 6th in the nation among college and university teams, and he was chosen on Walter Camp's All-American football team.

He coached football, baseball, boxing and ice-hockey at Washington University for ten years before coming to Rolla. He served in the U.S. Navy during World War II, from 1942 to 1945, with the rank of Lieutenant Commander. He is a member of the Missouri Bar Association, Phi Delta Phi legal fraternity, Washington University

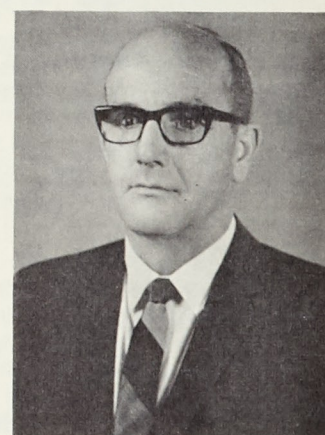
Alumni Association, Rolla Lions Club, Alumni Association University of Missouri-Rolla and Washington University's Letterman's Club. Gale's retirement date is September 1, 1970. The Bullmans will continue to reside in Rolla.

Board of Curators Appoint New Officers



*Mrs. Avis Green Tucker
Vice President*

Pleasant R. Smith, businessman and civic leader in Mexico, will serve as president of the Board of Curators, University of Missouri, for 1970-71. Mrs. Avis Green Tucker, of Warrens-



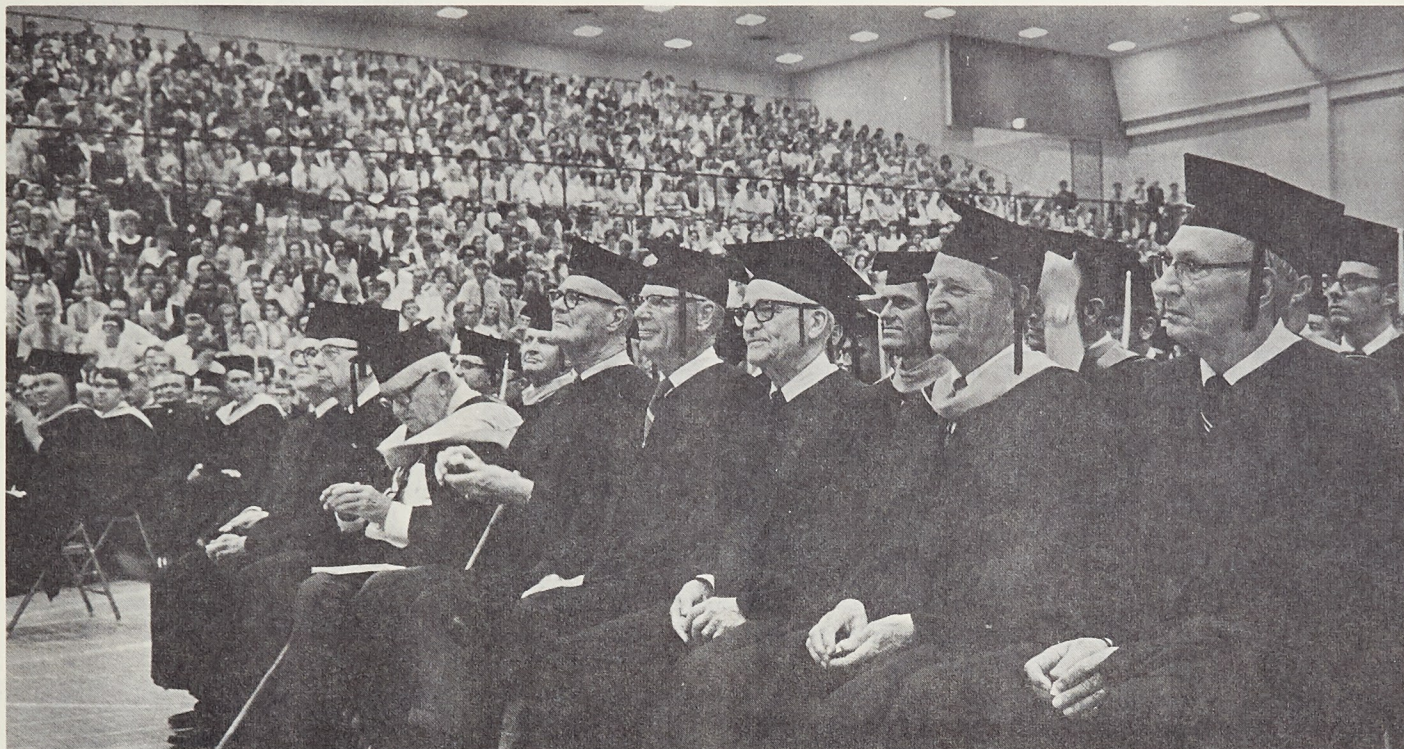
*Pleasant R. Smith
President*

burg, was elected the new vice president at the June meeting.

Smith, a curator since 1965, is secretary for both the 2,000-acre Allis Chalmers Farms in western Audrain County

MSM Alumnus

50-Year Alumni Return for Awards at Commencement



Class of 1920 at commencement exercises: (L. to R.) Charles R. Barnard, Oakland City, Ind.; David Bash, Bartlesville, Okla.; Matthew P. Brazill, St. Louis, Mo.; George Burnet, Ames, Ia.; William J. Nolte, Ft. Worth, Tex.; Mark L. Terry, Tulsa, Okla.; William Weigel, Lexington, Ky.; Harry W. Zieseniss, Ballwin, Mo.

and Gallaher-Smith-Feutz Realty, Inc., Mexico.

Smith entered University of Missouri-Columbia, in 1941 but his schooling was interrupted for three years while he served in the U.S. Army. He returned to the university and in 1949 received a B.S. degree in business administration.

At the university he was a member of the business fraternity, Delta Sigma Pi, earned four varsity letters in basketball and was co-captain of the 1948-49 team.

Mrs. Tucker was first appointed to the Board of Curators in December 1966, succeeding her late husband, William C. Tucker, who died the preceding month.

Mrs. Tucker is the fourth woman in the 131-year history of the University to serve on the Board and she was reappointed in 1969 by the governor for a six-year term. She graduated from the University of Missouri-Columbia, in 1937, receiving an A.B. degree. She is editor and publisher of

Eight Members of Class of 1920 Honored

The Class of 1920 was honored at the 97th Spring Commencement commemorating their 50th Anniversary.

There were fifty-six graduates in the Class of 1920. This was the largest class to that date. Twenty-eight members are living and eight attended the Commencement exercises to receive personally their 50-Year Recognition Award.

They were: Charles R. Barnard, Oakland City, Indiana; David A. Bash, Bartlesville, Oklahoma; Matthew P. Brazill, St. Louis, Mo.; George Burnet, Ames, Iowa; William J. Nolte, Fort Worth, Texas; Mark L. Terry, Tulsa, Oklahoma; William W. Weigel, Lexington, Kentucky and Harry W. Zeisness, Ballwin, Missouri.

the Warrensburg Daily Star-Journal and president of Johnson County Broadcasters, Inc., which operates radio station KOKO and is a member and active in many civic, professional and church groups.

Saturday evening before Commencement, the Class was honored at an alumni banquet at the Carney Manor Crystal Ballroom.

Chancellor Baker Leads Missouri College Group

Chancellor Merl Baker has been chosen to serve as president of the Missouri Association of Colleges and Universities for 1970 and 1971.

The Missouri Association of Colleges and Universities represents all public and private colleges in the State of Missouri. Its purpose is to work toward better serving the needs of higher education in the State and planning among the different institutions.

**JOIN THE CENTURY CLUB
IN OUR
CENTENNIAL YEAR**

Alumni Awards to Faculty Members



Alumni Association President, James Murphy presents awards to Dr. Zakin (Center) and Dr. Andrews

The Alumni Association's Awards to faculty, "Outstanding in Teaching" and "Outstanding in Research," were presented at the alumni banquet, May 30.

The faculty member chosen as an outstanding teacher receives this award by student balloting and the honoree for outstanding research is chosen by an anonymous faculty committee. They are selected for their research — both fundamental and applied — conducted while on the UMR faculty. Emphasis is placed on publications. Patents, research grants and books are considered as well as relevance of the research results to the field of endeavor.

The two faculty members chosen for these awards were; Dr. William A. Andrews, professor of civil engineering received the teaching award and Dr. Jacques L. Zakin, professor of chemical engineering was chosen as the recipient of the research award.

Dr. Zakin is author and co-author of some 30 publications, he holds four United States patents and has participated in seven grants from industry and government.

In addition to a plaque, Dr. Andrews and Dr. Zakin received a stipend of \$500.00 each.

**HAVE YOU ORDERED YOUR
CENTENNIAL MEDALLION?**

Graduates Starting Pay Continues to Increase

Despite retrenchment in the job market this year, 92 percent of the January and May, 1970 bachelor's degree recipients available for employment secured jobs upon graduation. The figure compares with 95 percent in the same group last year. Figures were compiled by the UMR Placement Office from statistics reported by January and May, 1970 Rolla graduates.

UMR starting salary levels continued to rise this year. January and May, 1970 graduates with bachelor's degrees started out in jobs at an average salary of \$855 per month. January and May bachelor's degree graduates in 1969 started out in jobs at an average of \$834 per month.

The largest number of graduates reporting for work in one area (in January and May, 1970) were those in the metals and metal products industries. Other job areas attracting a large number of UMR graduates included: petroleum and allied products; construction and building materials; government civil service; public utilities; automotive and mechanical equipment; electrical machinery and equipment; highways; aerospace and components.

The highest average starting salaries

at the bachelor's level went to graduates in mathematics (\$920 per month). Graduates with bachelor's degrees in other departments received the following average starting monthly salaries: petroleum engineering, \$910; chemical engineering, \$906; geological engineering, \$890; metallurgical engineering with nuclear option, \$881; ceramic engineering, \$880; physics, \$878; metallurgical engineering and mechanical engineering, \$873; engineering management, \$866; electrical engineering, \$865; mining engineering, \$861; geology with a geophysics option, \$860; civil engineering, \$838; computer science, \$835; chemistry, \$831; aerospace engineering and humanities and social sciences, \$827; engineering mechanics, \$825; geology, \$819.

Masters degree recipients are starting to work at average salaries of \$1,007 per month and Ph. D. graduates are taking jobs at an average salary of \$1,369 per month — according to January and May figures at UMR.

YOU ARE INVITED TO THE CENTENNIAL HOMECOMING

OCTOBER 23-24, 1970

REUNION CLASSES:

1926	1951
1931	1956
1936	1961
1941	1966
1946	1942

AND 1920 AND BEFORE

MINERS

VS.

SPRINGFIELD BEARS

DECORATIONS

BEAUTIES

BANQUETS

HOSPITALITY

PARADES

Students Provide \$8,106 For Needy Children

Because of the efforts of about 4,000 UMR students, underprivileged children in Phelps County now have at least \$8,106.23 to use for medical operations which they could not ordinarily afford.

UMR volunteers from campus organizations have been working since December to collect money to go for operations for underprivileged children in Phelps County. Students from various campus groups, working under the coordination of Theta Tau professional engineering fraternity, competed to make the most money for the project. They held out cans on street corners for donations, raffled off giant stuffed animals in the Student Union, sold candy bars to students studying in the dorms, washed cars and held chili suppers. Student groups nominated representatives to compete in the Ugly Man Contest — a for-fun competition with the winners being determined by the group obtaining the most money per man for the project. In short, students fairly outdid themselves to get the public to give to the project, which it did.

The Men's Residence Halls Association came out on top with the most money collected. The group turned in \$3,112.26 for the project. Next in most money collected came the Tau Kappa Epsilon social fraternity with \$1,167.40 and then the Kappa Sigma social fraternity with \$1,042.47.

The group which collected the most money per man with \$15.50. Next in this category came Kappa Sigma with \$12.14 per man and the Sigma Tau Gamma social fraternity with \$8.25 each.

All money is now in the UMR Ugly Man Fund. Students are asking county health authorities and public school officials to refer underprivileged children who need medical attention and who can't afford it, to this fund. Coordinating the entire program is Theta Tau.

**1970
HOMECOMING
OCTOBER
23 - 24
MAKE PLANS TO
ATTEND, NOW!**

Bodine Foundry Gives \$50,000 to UMR

The Bodine Foundry Company, 2100 Walton Road, St. Louis, Missouri has given \$50,000 to the UMR University Center in memory of the company's founder, the late Jesse R. Bodine.

The announcement of the gift was made recently to Robert V. Wolf '51, Professor of Metallurgical Engineering, by Robert and Jack Bodine, president and vice president of the company, sons of Jesse R. Bodine and UMR alumni.

The gift is for the Student Activities Center in the building and will serve as a cultural and recreational meeting place for UMR students.

It is hoped that ground will be broken for the center this summer.

The Bodine Foundry Company's gift was made in recognition of UMR's Centennial Year.

Driver-Assistance System Tested at UMR

A super-smart copilot in the form of a computer that will tell you how to maneuver your car is being researched at UMR.

It may some day take the place of the backseat driver.

The research group at UMR's Transportation Institute is testing a driver-assistance system that will use a small computer and a highly sensitive sensor installed in a car. It would pick up information stored in magnets in the road.

The system may eventually tell you such things as whether you are to the right or left in your lane, whether the road curves ahead, whether there are icy spots coming up, and how well you are driving.

The chief investigator of the project is Dr. Ken Dunipace, associate pro-

fessor of electrical engineering. The system may work in several different ways, he says, but probably something like this:

Magnets will be installed in the road at certain spacing. The sensor in the car will pick up road information from the magnets and feed it into a computer. The information will be delayed to the driver visually via arrows and dots projected on the windshield.

Dunipace says the arrows will point straight ahead if the car is in proper position, to the left if a left turn is necessary and to the right if a right turn is upcoming. And the dots will outline the road ahead.

New information could be fed into the magnets each day by local highway safety officials, such as what spots are icy after a winter storm.

THE CENTENNIAL PRIORITY CAMPAIGN FOR THE UNIVERSITY CENTER

(Campaign Progress to July 1, 1970)

Corporate and other Private Gifts \$ 339,439

(Number of Alumni Donors — 374)

Total Alumni Gifts and Pledges \$ 394,823

Needed to Assure Construction \$1,265,738

Teaching Certificates Now Awarded at UMR

A Bourbon, Mo. housewife and the mother of three, was the first to complete a new program at UMR which allows students to earn the B.A. degree from UMR and a life teaching certificate from the University of Missouri - Columbia.

Mrs. Henry Cartwright was awarded the bachelor of arts degree in history from UMR at this May's commencement exercises, and at the same time, was given a life teaching certificate from UMC. The program required 136 hours and all of the work, except eight weeks, was done at UMR.

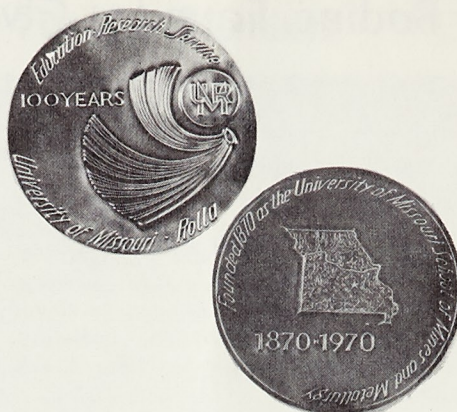
Dr. Lynn W. Martin, director of institutional studies and professor of psychology at UMR, heads the UMR UMC cooperative teacher education program. He has high praise for Mrs. Cartwright and for others like her who are working toward education and bachelor of arts combinations here. Dr. Martin says that there are two opinions open to the future teacher studying at UMR. "Under the first," he says "the student would simultaneously earn a bachelor's degree at UMR in either chemistry, earth science, English, history, mathematics or physics along with a B.S. in education and life teacher certification from UMC. The other option is the one Mrs. Cartwright followed."

Under both programs, beginning education courses and courses in the student's major are taken at UMR. Eight weeks are spent at UMC taking professional education courses. Eight weeks of practice teaching are done in the Rolla public schools. Dr. Martin says that similar programs have been offered at UMR for some time, but this is the first time for the formulation of these specific programs.

1970-71 Sabbatical Leave Granted Dr. Harry Weart

Dr. Harry W. Weart, chairman of the department of metallurgical and nuclear engineering has been granted a sabbatical leave for the 1970-71 academic year.

Dr. Weart has been selected as one of 36 new American Council on Education Fellows in the Academic Adminis-



The Centennial Medallion

To order your medallion, make your check payable to the MSM Alumni Association and send to the Alumni Office, University of Missouri - Rolla. The cost is \$7.50 for a mail order.

tration Internship Program for 1970-71. He will assume his fellowship in September at another campus to be announced soon.

Dr. Weart was nominated for the honor by UMR. Each ACE Fellow, during the nine-month internship either on his home campus or on a host campus, is assigned to one or more top administrative officers to observe and to participate in policy and decision-making activities. Fellows will attend fall and spring seminars in Chicago and Washington on the problems of academic administration. They undertake assigned readings in academic administration and produce an analytical report in the field of academic administration.

G.H. Haertling Lecturer At Ceramic Society

Gene H. Haertling '54, ceramist and scientist at Sandia Laboratories, Albuquerque, New Mexico, was a co-lecturer at the American Ceramic Society's meeting in Philadelphia, explaining one of the Laboratories' experiments.

A scientist, during an electronic experiment, accidentally sent a pulse of electricity through a dime-sized ceramic chip. He watched in amazement as the ceramic abruptly changed color. Now after four years of study and further tests, Sandia experimenters believe that

the chance observation may have spawned an entirely new technology that will eventually have wide applications in computers and communications.

In explaining the secret of the ceramic's unusual behavior, the lecturers told of tiny crystals in the ceramic — packed some 100 million to the square inch — respond to electric voltage much as iron filings align themselves in a magnetic field. High voltage causes many of the crystals to change their orientation; low voltage effects only a few. By reversing the voltage the change can be erased. That accounts for the color change; the ceramic is transparent only to a narrow range of light frequencies, or colors, at one time.

When the degree of orientation of its crystals is changed, the ceramic became opaque to the original color, but allows another color to pass through. Sandwiching a ceramic plate between two polarizing disks and applying different voltages in sequence, Haertling, and his co-worker Cecil Land found that they could precisely control the color the ceramic would transmit.

With these properties, the Sandia scientists say, the ceramic will be useful in computers. Because if the crystal orientation is determined by the last applied voltage, it is ideal for memory storage; its light-transmitting qualities can be used for computer read-outs and displays. Placed in front of a laser, the ceramic filter can block off the laser beam or let it through, depending upon the amount of voltage applied. It can control the laser beam much as a telegraphers key modulates a radio wave, thus transmitting information.

Other scientists see an even more exciting application; color television sets the size of transistor radios, using a hundred times less voltage than conventional sets, tiny battery-powered ceramic TV screens would show purer colors than conventional sets, without generating hazardous X-rays. They could also be used as an animated color transparency. Placed in a light projector, they could flash large TV images against a movie screen or even a plain white wall.

**1970 ALUMNI FUND GOAL
"70 IN '70"
MEANS 70% OF ALUMNI
GIVING IN '70**

Seeks Solution to Detergent's "Dirty Work"

Modern synthetic detergents may make Mrs. Jones' wash the cleanest in the neighborhood, but what happens later to lakes and streams where they are dumped in with waste water is an environmentalist's nightmare.

The scientific word for the problem is "eutrophication" which describes "the addition of nutrients to the water naturally or by man, thereby enriching it and causing increased biological growths." It is a natural aging process which normally takes place over eons of time; but it is speeded up by man's contribution of nitrogen, phosphorus and other nutrients, including phosphates from Mrs. Jones' detergent. These nutrients fertilize the lake and increase its biological productivity. The resulting overgrowth of plant life, in turn, causes all sorts of troubles in lakes.

The problem is explained by Dr. S. G. Grigoropoulos, director of UMR's Environmental Research Center which is finding ways to clean up the detergent's dirty work. "These prodigious growths of algae and other plant life use up enormous quantities of oxygen as they decompose. Fish die and the water looks and tastes so bad it is ruined for recreation and presents problems for domestic and industrial use. Eventually the lake turns into a swamp or marshland and slowly 'dies'. He cites Lake Erie as the best-known example of out of control eutrophication. The recipient of waste water from hundreds of communities, the lake is literally choking to death on its own plant life. The same process is happening all over the country and has even begun at Missouri's Lake of the Ozarks. Dr. Grigoropoulos warns.

Just how much phosphate detergents contribute to the death of lakes is not precisely known, since phosphates are added from many sources. However, about five billion pounds of detergents are now being used annually, which on the average, contain about 40 percent phosphates.

According to Professor Grigoropoulos the big problem is that these phosphates are not removed by ordinary waste treatment methods. UMR researchers began looking for a solution and they have come up with a method to remove the offending phosphates from the waste water while it is still in the sewage treatment plant.

Graduate students working with Dr. Grigoropoulos in this area have successfully removed up to 90 percent or more of the total phosphorus by adding sodium aluminate or alum to wastes in the activated sludge aeration chambers. Further tests have shown that the addition of these chemicals not only precipitates the phosphorus but seems to improve the entire waste treatment process, Dr. Grigoropoulos reported.

A parallel study conducted by Dr. K. Purushothaman of UMR's civil engineering staff is now investigating the effectiveness of activated alumina in removing phosphates from secondary sewage treatment plant effluent (the waste water left after most suspended and organic matter has been removed).

The UMR research will not solve the problem overnight, Dr. Grigoropoulos said. Some communities still do not treat their sewage at all before dumping it into lakes and rivers and many treatment facilities do not do an adequate job. At present, most of the towns and cities along the Missouri and Mississippi have only primary treatment plants and a few still discharge raw sewage, however, this situation should change in the near future, the UMR scientist said. The Missouri Water Pollution Board now requires installation of secondary treatment systems by 1975 for all sewage wastes discharged to these streams. Nationally, President Nixon's proposed water pollution control program would provide for about 1500 new sewage treatment plants and improvement of more than 2500 existing waste treatment facilities over the next five years.

Some 10 billion dollars is expected to be spent on this program; of this sum, four billion dollars will be provided by federal funds at the rate of one billion dollars per year beginning in 1971. UMR's recommended procedure for removing the phosphates would add little to the bill, Dr. Grigoropoulos said.

"The advantage of this method is that a minimum amount of additional equipment is required," he added. "In essence, all that is needed is a system to proportion and feed the alum at the proper stage of treatment. This offers no real problem and would be relatively inexpensive."

Glasphalt Test Strip Installed

A 600-foot-long by 20-foot-wide glasphalt strip will be installed on a busy UMR road as part of a research project sponsored by the Bureau of Solid Waste Management, U.S. Public Health Service. About 180 tons of crushed glass are being furnished for the project by the Glass Container Manufacturers Institute, which will have about 20 representatives on hand for the installation.

About one and one-half inches of glasphalt will be installed on an existing road consisting of a stone base with asphalt surface.

The UMR strip is a part of a test program to determine whether discarded glass containers can be substituted for sand, gravel and stone ordinarily mixed with asphalt for standard paving. It is estimated 125 cars and trucks per day will travel over the test surface. Wear on the strip by traffic and weather, and skid resistance will be tested for a period of at least two years.

Research on this project is directed by Dr. Ward R. Malisch, assistant professor of civil engineering; Dr. Delbert E. Day, professor of ceramic engineering and director of Industrial Research Center; and Dr. Bobby G. Wixson, associate professor of environmental health and associate director, International Center.

Ehlmann Receives Highest Honors at Commencement

Bryon K. Ehlmann, 1028 Madison, St. Charles, Missouri, was awarded Highest Honor at the Spring Commencement, May 31.

This award is presented to the member of the graduating class who has the highest grade point average.

Ehlmann received a bachelor of science degree in computer science with a 3.98 grade point average, out of a possible 4.00, for four years.

While at UMR Ehlmann was listed on the honor roll, held a Curator's University Scholarship and was a member of the Phi Kappa Phi and Phi Eta Sigma national scholastic honor societies.

He plans to enter the graduate school at UMR.

New Chem-Engineering Building to Fill Important Gap on UMR Campus

UMR Chancellor Merl Baker recently expressed appreciation to the Missouri Legislature and Governor Warren E. Hearnes for approval of the \$4.5 million Chemistry-Chemical Engineering Building. "This is a most important step toward meeting the space needs for engineering and science at the University of Missouri - Rolla," the chancellor said. "Although given a high priority for some time, this building need became critical last October when the Old Chemistry Building was destroyed by fire. This new structure — one of five catch-up buildings — will fill a most important gap in physical facilities on the Rolla Campus."

The new building will probably be a three-story structure connected by corridors to the present Chemical Engineering Building. It will contain about 50,000 square feet of space including instructional laboratories, research space, classrooms and faculty offices.

Following the fire last fall, the Campus Facility Planning Committee made a careful evaluation of the overcrowded conditions in other buildings on campus with special concern for laboratory space in temporary or obsolete buildings. The committee was concerned that valuable equipment was lost in this fire and that similar equipment has to be used in old or temporary buildings which are not fireproof.

This committee identified four additional new buildings which are needed to replace obsolete facilities and correct seriously overcrowded conditions. The highest priority of the four remaining "catch-up" needs is the Ceramic and Metallurgical Engineering Building and an Engineering Complex which will service civil and electrical engineering, engineering mechanics and engineering management. UMR's present ceramic and metallurgical engineering departments are housed in an old Mining Experiment Station (Fulton Hall), built in 1924 by the Federal Government. Although partially fireproof this building was not designed as an academic structure and, therefore, is not only overcrowded but inappropriately designed for its present use. However, it could adequately serve other on-

campus operations now housed in temporary wooden structures such as the Industrial Research Center and the printing plant.

Office and laboratory space are the major needs in the new Engineering Complex. Electrical and civil engineering professors are now located in old houses on the campus periphery. Laboratory space in these two departments is overcrowded and both the engineering mechanics and engineering management programs have obsolete and unsuitable space.

Completion of these two engineering facilities will give the large engineering programs at Rolla facilities commensurate with their size and reputation. "Adequate facilities will attract more students into these fields and, with the present expanding needs of Missouri industry, this is very important to the economy of the State," Chancellor Baker concluded.

Most Degrees Granted In '69-70 Fiscal Year

UMR has granted more degrees in the 1969-70 fiscal year than in any previous fiscal year. At the August, 1969, and January and May, 1970, commencement exercises, UMR granted a total of 1,243 degrees.

The figure includes 892 Bachelor of Arts and Bachelor of Science degrees, 282 Master of Science degrees, 20 Master of Science for Teachers degrees and 49 Doctor of Philosophy degrees. There were also 12 professional degrees and two honorary doctor of engineering degrees awarded.

During the fiscal year 1968-69, UMR granted a total of 1,016 degrees.

1,320 in Summer Session

A total of 1,320 were enrolled for summer school at UMR after the close of regular registration.

The total is an increase of 224 over the enrollment at the end of regular registration last summer.

Included in this summer's figure are

107 freshmen, 178 sophomores, 147 juniors, 394 seniors and 494 graduate students.

Not included in the total are the 260 enrolled at the St. Louis Graduate Engineering Center administered through the UMR Extension Division and 124 enrolled in special institutes on campus.

French Political Leader Discusses Foreign Policy

Jules Moch, French political leader, spoke on the UMR campus April 30. His topic was "French Foreign Policy."

Moch's career in the French government has spanned one of the most interesting, complex and significant periods of modern history. He was minister of the interior during the disturbance which resulted in De Gaulle's coming to power in May 1958. He has previously been minister of economy and reconstruction at the time of the inauguration of the Marshall Plan, and served as interior minister and deputy premier from 1947 to 1950. He was vice-premier for defense during the period of the creation of NATO's command structure.

Moch first became active in the French government when he was director of services for industrial and agricultural restitution in Germany from 1918 to 1920. After serving as minister of public works in the government of Premier Leon Blum, he was imprisoned for his opposition to the government of Marshall Petain. Subsequently, he served with the Resistance and joined De Gaulle's Free French forces in London in 1943.

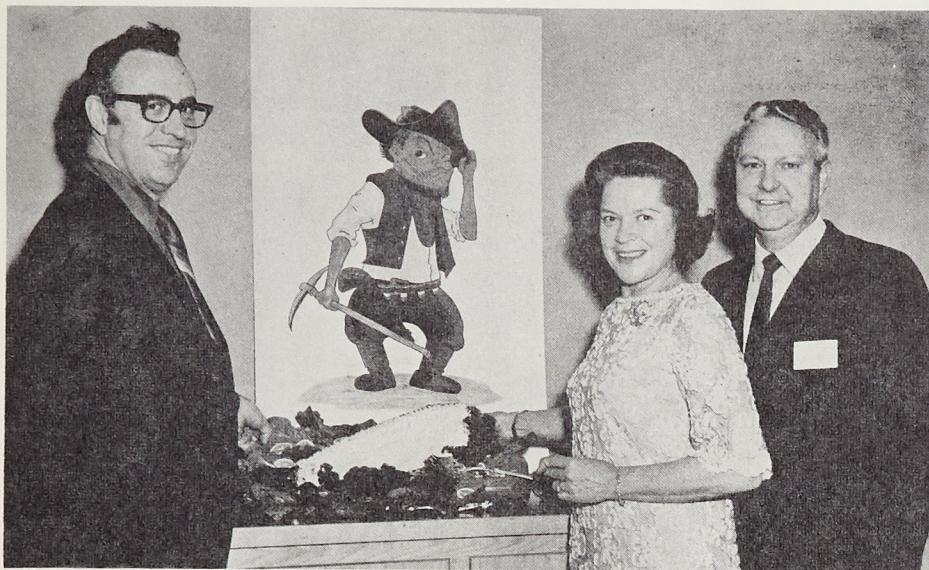
He is currently a member of the Directorate Committee of the French Socialist Party.

Moch's visit was sponsored by the University of Missouri Office of International Studies and hosted by the UMR Center for International Programs and Studies. He spoke on all University of Missouri campuses.

**ORDER YOUR
CENTENNIAL MEDALLION
\$7.50 VIA MAIL**

MSM Alumnus

Northwest Section Meets at The Perrys in Tacoma



Chancellor Baker with Mr. and Mrs. Roy Perry who hosted the Alumni meeting in Tacoma. Displayed is a Steelhead trout caught by the host and one of the delectable dishes served at the buffet dinner.

Chancellor Merl Baker, Ike Edwards and Frank Mackaman from the Alumni Office and Dr. Bill Atchley, Director of Centennial Events, were guests of the Northwest Section of the Alumni Association at the home of Mr. and Mrs. E. L. "Roy" Perry '40, in Tacoma, Washington.

Some thirty-five alumni and guests were present for this occasion at an ideal setting overlooking The Narrows and the Olympic Peninsula.

The host's reception and beautifully arranged and delectable buffet dinner, created by the hostess, was the focal point of the convivial gathering.

Alumni present represented classes from 1912 to 1968. Mr. Harold P. Ford, a member of the Class of 1912, was there with Mrs. Ford. He is retired now and living in Olympia. Stephen R. Strauss, of the Class of 1968, was a member of the youngest class present. The new Section president is Henry "Pat" Duvall '62. The retiring president Marvin Byington '65, and wife, Claudis, were present.

Others attending were: Ron and Christine Abbott '66; Bill and Mary Brunjes '59; Vince Crane '66 and guest; Bruce and Minnie Landis '43; Dean and Paulla Martin '64; Pete and Marilyn Malsch '62; Jerry and Grace Over-

ton '56; Ken and Nancy Siroky '59; Leslie and Harriet Spanel '59 and Ken and Frankye Woodruff '58.

This was the second meeting of the alumni in the Northwest this year. The previous one was held in April. Another one is planned before the summer ends. Keep in touch with the Section's officers.



Mr. and Mrs. Harold Ford '10 and Stephen Strauss '68 the oldest and youngest grads at the Tacoma meeting.

The alumni deeply appreciate the kindness of the Perrys in giving the facilities of their lovely home to stage an alumni meeting and their generous hospitality in providing the reception and buffet dinner.

1,000 Freshmen to Enter UMR Now Pre-Registering

More than 1,000 freshmen who will enter UMR in the fall are taking part in a summer pre-registration and orientation program. About 100 in each group are participating in the two-day sessions from June 11 through July 21.

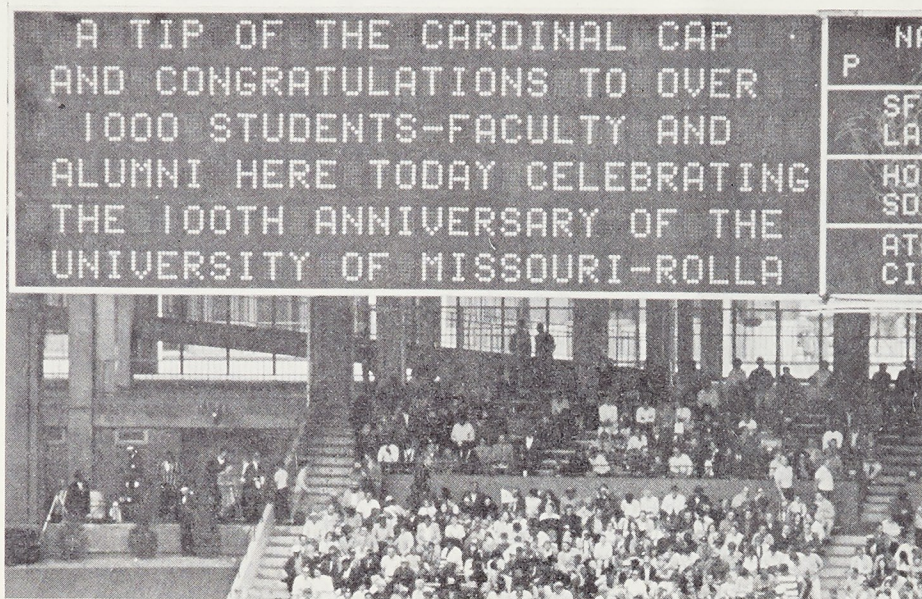
Directing the program is Dr. Lynn W. Martin, Director of Institutional Studies and Professor of Psychology. Students are getting acquainted with university life, meeting faculty and administrators and pre-registering for the fall semester.

Twenty college counselors from all over the United States are assisting in the program. This part of their participation in the Institute for Junior College and Developing Institution Counselors in session at UMR under Dr. Martin's direction.

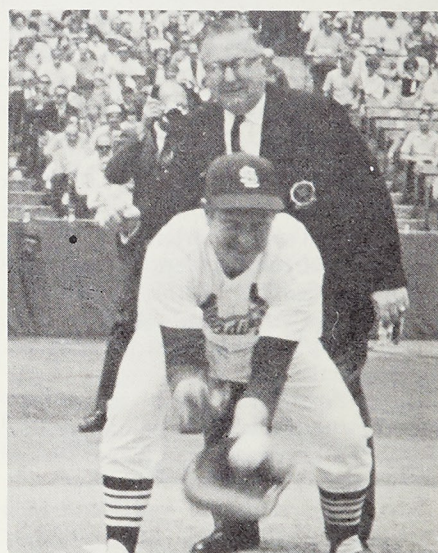
A new and rather unique part of the freshman program this year is an 80-minute closed circuit television movie explaining all the different areas of study offered at UMR.

Centennial Day at Busch Stadium

Thousand From UMR Watch Cardinal Baseball at St. Louis



Top left - UMR Centennial Day given recognition on scoreboard. At right - Chancellor Baker pitches first ball, Pete Mattei '39 umpires and Red Schoendienst catches, and Chancellor and Mrs. Baker among fans at Stadium Center - Student Council President C h u c k LaJeunesse strikes at first pitch. Lower left - Chancellor presents Centennial Plaque to Cardinals.





Ned O. Kraft, right, displays the citation presented with the Decoration for Distinguished Civilian Service. With Mr. Kraft is Mr. William C. Woodward a Vice-President of Alcoa.

Army Service Award Presented Ned Kraft

Ned O. Kraft '27, was presented the decoration for Distinguished Civilian Service an award of the U. S. Army. The ceremony was held at the Frankfort Arsenal Management Luncheon in Philadelphia, Pa., April 9, 1970.

The citation reads, "As the technical representative of the Aluminum Company of America, Mr. Kraft contributed significantly to the Army's program in the effective use of aluminum in armor. He was a key figure in promoting definitive ballistic tests and in optimizing the aluminum alloy used as armor in the M-113 vehicle and an improved alloy for the M-551. His contributions were in the best tradition of public service, reflecting great credit upon himself."

Mr. Kraft recently retired from Alcoa after 40 years of service, including 4 years of military leave, which he served as a Lieutenant Colonel in the Army. As Officer in Charge of aluminum and magnesium problems in the Production Division, Army Service Forces, during World War II, he received the Citation of the Legion of Merit.

Mrs. Kraft, their daughter-in-law, Mrs. Ned O. Kraft, Jr. and her son, Ned III, attended the ceremony. The Krafts have five children and fourteen grandchildren, most of them live in the Washington, D.C. area. The Krafts live at 9603 Page Avenue, Bethesda, Maryland.

Harry Kessler Featured In St. Louisan's Book

Dr. Harry H. Kessler '24, is one of the sixteen men that are included in the edition, "Free Enterprise Is Not Dead," a book written by Edward T. Wright, a St. Louis lawyer and mayor of Brentwood, Missouri. The publisher is Practical Seminar Institute, St. Louis.

The other five from St. Louis are Stan Musial, August A. Busch, Jr., James S. McDonnell, Pierre L. LaBarge and the author's father, Denver Wright.

One of the many stories related in a chapter devoted to the "millionaire referee" as they call him, happened after Harry refereed a championship fight in Houston, Texas. Cassius Clay failed to recognize him shortly afterward that night in a hotel elevator.

Another person, introducing Kessler to Clay, wanted to make certain the champion was duly impressed. The referee, he said, also is a millionaire.

The fighter looked at the official in amazement, "How'd you get it?" Clay asked, "You steal it or marry it?"

Kessler, a poor boy who became a rich man through his inventiveness and financial acumen as a metallurgical engineer, likes to tell that story with a smile.

Today, Harry Kessler's Meehanite Metal Corporation is world-wide with foundries in 31 countries, and the globe-girdling, silver-haired executive has more than a few evidences of what hard work, good luck and business sagacity brought him.

A. B. Jewell Retires

A. B. Jewell '23, whose work probably effected more residents of Tulsa, Oklahoma, each day than any other person, retired in November 1969 after 46 years as a city water department employee.

Jewell, superintendent of the city's

waterworks, reached 70 years of age November 21.

He began work with the water department in 1923, the year Tulsa abandoned the Arkansas River as a water supply and converted water stored at Lake Spavinaw, 60 miles east of the city.

In 1938, he was named assistant superintendent, the position which he held until 1958, when he became superintendent of Tulsa's \$100-million water system.

Although the City of Tulsa's personnel policy generally requires retirement at the age of 65, Jewell's employment has been extended on a yearly basis by the City Commission since 1964.

Centennial Medal of Honor to Be Awarded

As part of UMR's Centennial Program, there is to be awarded a silver medallion to be designated the UMR Centennial Medal of Honor. The purpose of the medal of honor is to recognize contributions made by individuals, organizations, industries, or other groups in one or more of the categories indicated below. Twenty-five of these medallions have been made available and each is to represent the recognition by UMR of truly outstanding achievements.

The qualifications for receipt of the medallion and the procedures for nomination and selection are indicated below:

Categories of Qualifications:

(1) Outstanding achievement in service to this country and state;

(2) Outstanding achievement in education, service, and leadership to UMR during the past 100 years;

(3) Outstanding support to UMR and its educational growth during the past 100 years.

Selection Procedures:

(1) Nomination to Committee;

(2) Committee to Chancellor;

(3) Chancellor to President.

Nominations should be submitted in no more than a one-page statement addressed to J. C. Pogue, Chairman, UMR Centennial Medal of Honor Committee, Department of Humanities, G-3 Rolla Building, Rolla, Missouri. The nomination statement should clearly

indicate the measure of contributions of the candidate in one or more of the three general areas of qualification listed above. Additional support material may be requested by the Committee if such material is deemed necessary.

The presentation of the medallion to the various recipients will be made at the time of various University functions or events during the course of the centennial year, or at a special convocation to be determined at a later date.

All faculty, students, and alumni are invited to submit nominations for this award. Nominations for the recipients of this medallion may be submitted immediately to the Committee. It is suggested that all nominations be received by the Committee not later than October 1, 1970.

Alumnus Aids in Techniques in Criminal Problems

Many of the developments coming out of the nation's space and military problems have been found to offer promise in the quest for solutions to pressing civilian problems.

R. J. Rieder '51, has been appointed Manager of the Public Safety Systems Department of the North American Rockwell Information Systems Company, to apply these developments in the area of crime and law enforcement. North American Rockwell is the prime contractor for the Apollo Manned Lunar program.

Among the projects directed by Mr. Rieder, an electrical engineering graduate, have included the development of a Command Control Communication System for the newly constructed Tulsa Police Department facility. This consisted of advanced command consoles for use in dispatching police resources, a display center for police management monitoring and control, and the application of computer techniques to drive cathode ray tube devices for use in computer assisted dispatching.

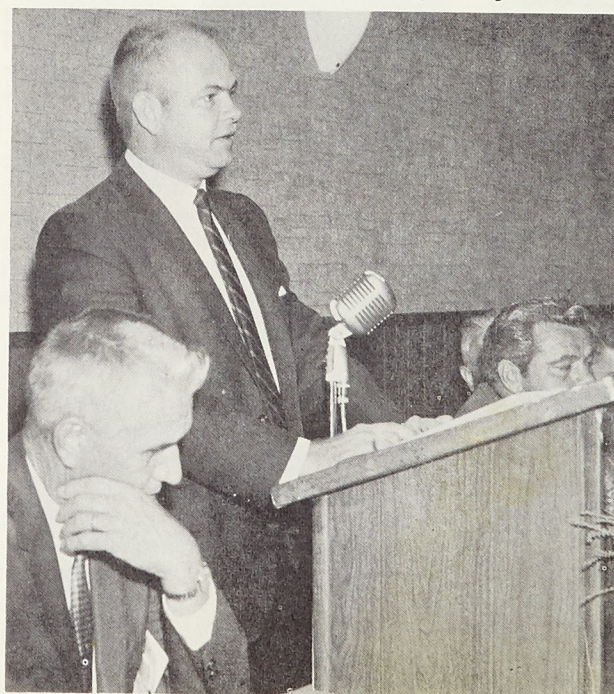
Some of the coming innovations for police involve the use of mobile teleprinters in police cars, providing a means of recording messages while officers are out of their cars, and reducing the amount of paperwork and note taking in the field. Other innovations

invisioned by Mr. Rieder include vehicle systems, similar to military tracking systems, to provide automatic and accurate information on the location of police cars at any given time.

One of the programs at North American Rockwell is expected to yield an automatic fingerprint reading and checking system, reducing the graphic

portrayal of a fingerprint to digital data, and thereby identifying wanted persons more rapidly.

The court systems in the United States represent still another area in the law enforcement-criminal justice field to which advanced aerospace technology has been applied. For the United States Judicial Center, NARISCO performed



R. J. Rieder addressing the annual meeting of California Peace Officers Association on "Aerospace Techniques Applied to Criminal Justice Problems."

an overview study of five courts of Appeals and five District Courts to develop new techniques and management concepts for processing cases and resultant paperwork using computerized techniques.

With recent emphasis by President Nixon on the correctional aspects of crime, new approaches to rehabilitation and prisoner training are expected to come to the forefront. Added to the effort already initiated in the police and courts, this will round out a total effort — from apprehension of the criminal, through trial and sentencing, to rehabilitation for useful re-entry into society.

Mr. Rieder states, "It is a satisfying and rewarding experience to be a part of the national efforts designed to assist in some of man's social problems. The technological developments of the recent space and military programs have produced a tremendous reservoir of techniques not yet applied to the civilian world. Our efforts must be to channel these into meaningful enhancements of life, and the improvement of our criminal justice system represents one of the most challenging of these."

Mr. Rieder has authored several technical papers in the area of communications and computer applications, for the law enforcement and fire fighting fields among others.

He is a member of numerous professional societies and organizations. Robert resides in Orange, California, with his wife, Norma and their four children, Donna, Caroline, Jeffrey and Douglas.

1970 Football Team Selects Co-Captains

The University of Missouri - Rolla football team has released selections for the Miner co-captains for the 1970 football team, they are: Bob Berry, senior fullback, and Fred White, senior cornerback.

Berry, a second team all-league selection last year, should be the short yardage man next fall. Berry proved last year that he is a quick accelerating back as well as a great blocker. The fact that his running mate last year, Les Clark, picked up more than 700 yards in eight games proves Bob's blocking abilities. Berry, a Rolla High

School product, came to the Miners as a linebacker but was quickly converted to defensive end where he lettered as a sophomore. Last fall, the year of the "great experiment," brought Berry to the fullback slot. There he picked up 483 yards, an average of 4.1 yards a try. The fullback also scored 10 touchdowns on the ground (a new team record) and scored 66 points which tied him with Larry Oliver for that squad record.

White, an all-conference selection last fall, was a "walk-on" for the Miners when he reported in the summer of 1966 as a freshman. Fred had never started a game in high school as a guard and the coaching staff couldn't see a 160-pound guard even on the B-team. So White did not get into a single ballgame that season. However, he came back with determination the next fall as a third string defensive back. By the end of the season the Kansas City-Central product had found a home in the Miner secondary. Last fall Freddie intercepted eight passes to tie the UMR record. His return yardage of 240 yards and two touchdowns are both Rolla records.

ENGINEERS AND SCIENTISTS WANTED

For information concerning the positions listed below, please contact Mr. L. R. Nuss, Director of Placement and Industry Relations; UMR, Rolla Mo. 65401, giving File Number of the position.

ENGINEERS - SCIENTISTS — Large eastern company. Need for most all disciplines. Experienced and non-experienced. Good salary scales. Refer File No. 525.

ASS'T PRODUCTION MGR. — Supervision production and product quality control, plant upkeep and maintenance and personnel relations. St. Louis based company. Refer File No. 526.

CHEMISTRY — B.S., M.S. and Ph.D. Large oil company. Electrochemical, analytical, polymer, research. Also product designer and production engineer. Refer File No. 527.

ENGINEER — Electronic. E.E. or M.E. Good salary. Also sales engineer in East. Refer Files No. 528 and 529.

E.E. — Brewery in Texas. Plant engineering work. Refer File No. 533.

Ch.E. — Environmental control field. Eastern U.S. Refer File No. 534.

ENGINEER — Technical sales and manufacturing. Tennessee location. Refer File No. 535.

M.E., E.E., Ch.E., Ind. E. — World's leading loudspeaker manufacturer. Refer File No. 536.

SR. MET. ENGR. — Aircraft company. Rocket motor and missile structural components. 7 years experience. Refer File No. 537.

ENGINEERS — Executive salesman and structural designer consulting engineering firm. St. Louis area. Refer File No. 540.

ST. LOUIS FIRM — Heat power engineer. R & D scientist. Plant engineering trainees. Packaging Technologists. Refer File No. 541.

E.E., M.E., C.E. — Experienced in a construction associated industry. Refer File No. 542.

MET. E. — Knowledge aluminum die casting and powdered met. Helpful. Aircraft. Refer File No. 543.

ENGINEERS — Petroleum with state conservation department. Refer File No. 544.

ENGINEER — Application communication systems. Refer File No. 545.

CHEMIST — Research, process development of foods and feeds, chemical analysis, some travel. Refer File No. 548.

Ch.E. — St. Louis, Mo. Quality engineer. Refer File No. 549.

ENGINEERS — Sales mine hoist. Sales application. Sales vibrating screens. District Sales power machinery. Sr. R & D machinery. Ass't chief power machinery. Sr. field. Refer File No. 550.

ENGINEER — Company engaged in manufacturing ore dressing and coal preparation equipment. Prefer engineer with this training. Bright future and good pay. Refer File No. 551.

ENGINEERS — Ch. E. plant trouble shooting, studies and analysis. Technical sales. M.E. handle engineering studies of plastics and sales. C.E.

supervision construction and maintenance. Eastern U.S. Refer File No. 552.

ENGINEERS — Q.C., Process Ch. E., M.E., or Chemist. Production control, Bus. Adm. Refer File No. 552A.

ENGINEER — Process in chemical products plant. Chicago area. Ch.E. Refer File No. 554.

CHEMIST — Analytical. M.S. or Ph.D. Problems related to air pollution, pesticide residues and clinical chemistry. Refer File No. 555.

E. E. — Young progressively expanding company making communication and navigational instruments. Kansas City suburban area. Refer File No. 558.

B.S. DEGREE — Engineering. Math., or Computer Science. Interest in software design. Knowledge of Fortran or PL-I, some experience with System 360 an asset. Eastern U.S. Refer File No. 559.

CHEMICAL CO. — Chemists, Ch. E., M.E., C.E. New York, California, Delaware and Michigan. Mostly experienced. Refer File No. 560.

MET. E. — Or equivalent as sales engineers. Contact metallurgical industries, analyzing requirements for equipment for solid-liquid separation. Refer File No. 562.

MARRIAGES

Kemper - Oberg

Wayne W. Kemper '68 and Miss Dian Oberg, of Hermann, Missouri, were married March 28, 1970. Wayne was inducted into the U.S. Army in January. Following his basic training at Ft. Leonard Wood, Mo., he was assigned to the Corps of Engineers Waterways Experiment Station as an electrical engineer in the instrumentation division. Their address is Rte. 6, Box 251-B-16, Vicksburg, Mississippi.

Astrack - Heisner

Richard F. Astrack '68 and Miss Kathryn June Heisner, of Pinckneyville, Illinois were married June 27, 1970. Richard is a hydraulic engineer with the Corps of Engineers, St. Louis District, and is presently working on a study of flood control problems in the City of St. Louis. They reside at 10015

Bunker Hill, Apt. E, St. Louis, Missouri.

Wells - Morris

William L. Wells '65, and Miss Conie Lou Morris, of Kahoka, Missouri, were united in marriage, May 23, 1970, at Kahoka. Mr. Wells is a construction engineer with the Missouri State Highway Department and is presently assigned as assistant resident engineer at Bowling Green, Missouri.

Moran - Waters

M. D. Moran '66 and Miss Sylvia R. Waters, of Godfrey, Illinois were married February 28, 1970. The best man was Michael E. Hardy '66, of Cincinnati, Ohio. The groom is a process engineer at Mallinckrodt Chemical Works, St. Louis, Mo. Their address is 9653 Jacobi, Apt. 5, St. Louis, Mo.

House - Bothello

Phillip M. House '68 and Miss Joyce Bothello, of Auburn, California, were married April 12, 1969. Phillips is a general engineer (power division) U.S. Bureau of Reclamation, Sacramento, California. Their address is 2769 Castle Hill Court No. 33, Sacramento.

Brave - Wiegiers

Phillip Brave '67 and Miss Elizabeth Wiegiers, of St. Louis, Mo., will be married August 1, 1970. Their new home will be at 1204 Quantock Drive, Apt. 7, St. Louis.

BIRTHS

Mr. and Mrs. Maxwell L. Close '63, have a son, Gregory Scott, born December 3, 1969. Maxwell is now with Industrial Nucleonics, Columbus, Ohio.

Mr. and Mrs. John G. "Jerry" Borman '59, announce they now have a second daughter, Carolyn, born February 7, 1970. Elizabeth is now 3 years old, and their son Michael is 6 years. Jerry received his M. S. degree in Business Administration from Marquette University last December. He is supervisor, quality analysis and services at Louis Allis Company a Division of Litton Industries. His address is 4077 North Prospect, Shorewood, Wisconsin.

Mr. and Mrs. George E. Franke '58, welcomed a daughter, Sarah Ann,

March 27, 1969. They have two sons, David and Mathew. George is district maintenance engineer with the Kentucky Department of Highways, Paducah. They live in Calvert City, Route 1.

Mr. and Mrs. Edward A. Cole '65, are the parents of Jennifer, who arrived April 29, 1970, to reside with them at the Lakeshore Apartments, Apt. 108, Columbia, South Carolina. Ed is senior process engineer, Westinghouse Nuclear Fuel Division.

Lt. and Mrs. Allen F. Pfeuffer '67, announce the arrival of Christopher Douglas, February 7, 1970. The Pfeuffers reside at 5717 Luce Avenue, North Highlands, California. Allen is a Civil Engineer Officer at McClellan AFB, California.

Mr. and Mrs. John W. Gass '67, are the parents of Brandon Michael, who arrived May 20, 1970. His father is an engineer with Allis-Chalmers Construction Machinery Division. His mother is the former Sandra Stewart, of Rolla. Their address is 3225 Sherman, Springfield, Ill.

Mr. and Mrs. Gary R. Dyhouse '64 are parents for the first time when Gary Anthony arrived on June 1, 1970. They reside at 4221 La Salette Drive, No. 2C, St. Louis, Missouri. The new father was recently promoted to the Head of the General Hydrology Section, Hydraulics Branch, U.S. Corps of Engineers, St. Louis.

Mr. and Mrs. Alan Shaffer's '66, new daughter, born October 10, 1969, is Becky not Caroline Sue. Al is with the Nooter Corporation, St. Louis, Mo., not Missouri Tank and Boiler Co., and the Shaffers live at 937 Lebon Drive, St. Louis, not 1642a Norlakes Drive. This is a correction from the April issue, and we believe we have it right this time.

Mr. and Mrs. Donald W. Lett '67, began their family with Michele Lynn, born October 21, 1969. They reside in Sedalia, Missouri, 2604 South Stewart, where Donald is district engineer with the Missouri Public Service Company.

DEATHS

Benjamin S. Cornwell '22

Benjamin S. Cornwell '22, died March 27, 1970. He was a native of

MSM Alumnus

St. Louis, Missouri, and was an industrial engineer until his retirement a few years ago. He is survived by his widow Elfrede; a son Robert S.; and two brothers Alexander, of St. Louis, and George, of Santa Barbara, California.

John Brady Huebner '31

John Brady Huebner '31. The alumni office has been advised of the death of this alumnus. The date was not given. He was with the U. S. Army Corps of Engineers.

Charles Neil '25

Charles Neil '25, died April 12, 1970. He was an employee of the Standard Oil Company and resided at 802 Bungalow Street, El Segundo, California.

Allen P. Green, Jr. '32

Allen P. Green, Jr. '32, age 60 years, died May 3, 1970, in Loma Linda, California. Former vice president of the A. P. Green Refractory Co., he retired several years ago for health reasons. Surviving are his widow, Rita, two sons, Allen P. III, and George of Seattle, Washington and three sisters, Mrs. Arthur Bond and Mrs. Walter Staley, of Mexico, and Mrs. Neal S. Wood, of St. Louis, Mo.

Lt. Col. Fred V. Cole '62

Lt. Col. Fred V. Cole '62, UMR alumnus and former member of the military science department lost his life in a helicopter crash, in Vietnam, May 12, 1970. He came to UMR as a student officer, received his B. S. degree in Civil Engineering. He joined the ROTC faculty and taught until 1966. In the interim, he received his M. S. degree. He left Rolla for the Army Command and General Staff College where he graduated in 1967. He is survived by his widow, Jane, and three children who reside in Clearwater, Florida.

Arthur W. Wilson '42

Arthur W. Wilson '42. The alumni office has been informed of his death.

Evan Earl Ashlock '20

Evan Earl Ashlock '20, suffered a heart attack on March 31, 1970 and died May 3rd. He has been in good health and active and still doing consulting work for his old firm, Gunther & Shirley Construction Company, in Sherman Oaks, California. Surviving is his widow, Eloise, 5355 Van Alden,

Tarzana, California, three children and ten grandchildren.

Gary L. Overleas '64

Gary L. Overleas '64, died April 27, 1970, in Chicago, Illinois, after an illness of two years. He was commissioned a 2nd Lt. in the U. S. Army at graduation and placed on active duty, shortly afterward. Returning from overseas, he returned to UMR and received a Master's degree in 1967, and accepted a position with Edward Gray Construction Corporation. Surviving are his widow, Betty Nickel Overleas; a son Michael; his parents Mr. and Mrs. E. B. Overleas, of Rolla; a sister and grandmother. A memorial has been established through the American Cancer Society.

Donald R. Willems, Sr., '62

Donald R. Willems, Sr., '62, died April 19, 1970, at the Richards-Gebaur Air Force Base Hospital, Grandview, Mo. He lived in Belton, Missouri, and was employed by the U. S. Corps of Engineers, Kansas City District. He was a member of the Belton Christian Church, Masonic Lodge and Civil Defense Organization. He was a veteran of the Navy Seabees during the Korean War. Surviving are his widow, Kathleen; a son, Donald R. Jr.; a daughter, Shelley; and two sisters. Burial was at Marshall, Mo.

Andrew Baxter Black '41

Andrew Baxter Black '41, died October 16, 1967, after suffering a second heart attack. He was pilot plant superintendent at Minera Falconbridge, Santa Domingo, Dominican Republic. His wife and daughter returned to Canada, their former home.

Dwight L. Moodie '24

Dwight L. Moodie '24 passed away in Kirkwood, Missouri, on May 23, 1970, after a brief illness. He was born and raised in Carondelet and attended Cleveland High School in St. Louis. He was very popular on the campus. active and a good student, a member of Tau Beta Pi, Student Council, advanced ROTC, Quo Vadis and an officer of Kappa Alpha fraternity. He became the first full time staff member of the Alumni Association in 1946. During World War II, he was Post Engineer at Ft. Hamilton, New York. After a business career with Laclede Christy and with Ford, Bacon and

Davis, he taught in the high school at Pacific, Missouri, where he continued to make his home after retiring from teaching.

Richard John Stroup '21

Richard John Stroup '21, died March 26, 1970, in St. John's Hospital, Springfield, Missouri. He resided in Baxter Springs, Kansas.

Robert Knox Stroup '21

Robert Knox Stroup '21, died May 30, 1970, in St. John's Hospital, Springfield, Missouri. He was retired and lived in Baxter Spring, Kansas.

Alumni Personals

1907

Aubrey Fellows, one of the few remaining members of his class, sent us the following most interesting note. "The Class of 1907 produced the first Rollamo, the school's yearbook. I believe of interest to some of the present students, is the "Little Fellow" on page 29. He recently passed away. He was the first child born to a student and his wife while attending MSM. The entire school was quite excited and very proud of Baird Fellows. He lived a life of which his "inherited" alma mater could be proud. We were a small school. We were mostly poor and earnest boys, and we did love our school and each other and the faculty. I might add that you are going to get along without we 1907 boys — we are about pooped out." Mr. Fellows lives in Salisbury, Missouri.

1922

Edwin G. "Ted" Machin retired from the J. D. Barter Construction Company, Harrisburg, Illinois, as of January 1, 1970, after 48 years in the field of heavy construction. The only time he was away from this field was during World War II, in which he was an engineer staff officer in various headquarters of the European Theatre of Operations. He was retired from the reserve as Colonel in the Corps of Engineers. Now he is doing a bit of consulting just to keep up with the industry and old friends. His office is in his hip pocket. He advises he is in good health and wishes all his old friends, the alumni

association, the personnel of his alma mater the best of everything. He is extremely proud of his school. Ted will continue to reside in Nashville, Illinois. His mailing address is P. O. Box 175.

1928

Sam D. Hodgdon, 740 Timber Trail, St. Louis, Missouri, retired January 1, 1970. He was Senior Vice President, Metal Goods Division, Alcan Aluminum Corporation.

1934

W. H. Bruening has been appointed Chief Mechanical Officer of the Kansas City Southern Lines with headquarters at Pittsburgh, Kansas.

1938

Roy C. Cornett, general engineer, Department of the Army, Office of the Chief of Engineers, ENGM-CU, Washington, D. C., advises his son, Roy C. Jr., is a student helicopter pilot at Fort Rucker, Alabama.

1939

Lawrence A. Roe, Project Manager and Process Consultant has announced his resignation from the Parsons Jurden Corporation, New York and the formation of the consulting firm, Mintec Associates. The new firm is headquartered in Summit, New Jersey. It offers consulting engineering services to the minerals industry. The company is primarily oriented towards process development and plant design. Current projects include studies relating to development of capital and operating costs for two types of metallized iron pellet plants and flowsheet development for an ultra-high purity glass sand. He is author of the book "Iron Ore Beneficiation" and holds several patents relating to the mineral industry. He is internationally known and has completed feasibility studies on four continents during the past seven years. His address is Box 405, Summit, N. J.

1940

Joel F. Loveridge, 739 Country Manor, St. Louis, Missouri, has organized a new business, Loveridge Engineering Sales Company. He deals principally in heavy industrial supplies.

Paul F. Ross, Lt. Col. USAF (Ret.)

is now working as a civilian and is Development Systems Manager, Wright Patterson Air Force Base, Ohio. His address is 3101 Braddock St., Kettering.

1943

Dr. Kemal Ozkal is a visiting professor in the Department of Mining and Petroleum Engineering at UMR. He worked 18 years in coal mines and became general manager of Turkish Coal Mines. He joined Middle East Technical University, Ankara, Turkey in 1965. He became Chairman, Department of Mining, Petroleum and Geological Engineering at that University. Dr. Ozkal has his family with him in Rolla and his son and his daughter are attending UMR.

1944

Vernon J. Pingel, senior engineer in charge of the metallurgical laboratory, Hawthorne Works of Western Electric Company, was the author of a feature article in the company's magazine "The Engineer," April 1970 issue. The title of the article was "Heat Treatment of 2-81 Molybdenum Permalloy Powder



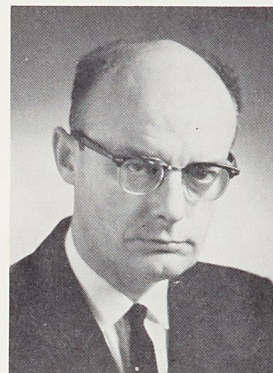
Vernon J.
Pingel

Cores." This treatment improves the magnetic and mechanical properties of powder cores. Pingel joined Western Electric in 1962. In 1968 he was awarded a Western Engineering Innovation Award for the improvements he obtained in the manufacture of powdered permalloy cores. Two patent applications have been made to cover this work. He is a member of Tau Beta Pi, the American Society for Metals and Amer-

ican Powder Metallurgy Institute. The Pingels reside at 812 West Grove, Arlington, Illinois.

1947

James A. Smith has been named Manager-Business Development at the General Electric Company's Power Protection and Conversion Division in Phil-

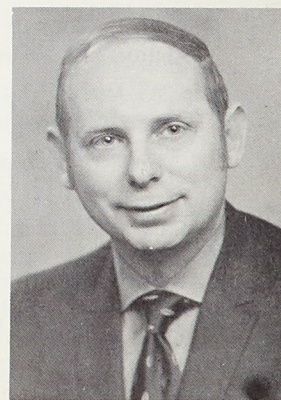


James A.
Smith

adelphia, Pa. Moving from his present position as Manager - Electric Utility Application Engineering Operation in the Central States Regional Office of the Power Generation Sales Division, his new position will initially involve him in the activities of Canadian Electric's H. V. D. C. Research and Development project in New Brunswick, Canada. Mr. Smith joined General Electric in 1947. The Smiths have one son, age 15 years.

1948

W. F. Stoecker has received the 1970 Western Electric Award for Excellence in Engineering Instruction. He is Pro-



W. F.
Stoecker

MSM Alumnus

fessor of Mechanical Engineering at the University of Illinois. He was one of two professors selected from the engineering colleges of Illinois and Indiana to receive the award which was presented at the Illinois-Indiana Section meeting of the American Society for Engineering Education held at Notre Dame University April 25. The award consists of a certificate and \$500.

1949

Glenn Sutton participated in the Environmental Teach-In on the campus in April. Glen is assistant chief of technology, Bureau of Occupational Safety and Hazards of the U. S. Public Health Service. He discussed mining occupational health hazards. He is in Cincinnati, Ohio. His residence address is 1872 Robinway Drive.

Murray Schmidt, 3011 Marina Drive, Alameda, California, is manager, foundry Sales, DeLaval Turbine, Inc., Oakland. His company's foundry is the largest commercial iron and steel foundry in the western United States. For many years, Murray sold refractories to the foundry industry, and now, he is seeing the other side of the business and finds it fascinating.

Kermit G. Rowley recently was promoted from District Production Engineer, Offshore in Lafayette, Louisiana, to Senior Research Engineer, in Houston, Texas, with Tenneco Oil Company. Kermit is co-author of a feature article, "Tenneco Controls Wild Wells Below Water Surface to Avoid Oil Spills," that appeared in the May issue of "Offshore" a Tenneco publication. His address is P. O. Box 2511, Houston, Texas.

1950

Dr. Charles M. Rice is President, Idaho Nuclear Corporation, Idaho Falls, Idaho.

Robert H. Erskine, vice president and general sales manager, Peter Vredenburg Lumber Company, Springfield, Illinois, has been named chairman of Associates Committee, American General Contractors Chapter of Central Illinois Builders to coordinate contrac-

tor, architect and supplier phases of the construction industry.

James E. Miller is project engineer in a joint venture of Howard, Needles, Tammen and Bergendoff forming a joint venture for the Atlanta Airport expansion and known as Atlanta Airport Engineers. The other firm is Robert and Company Associates, an Atlanta firm. Jim was previously in New Jersey and his new address is 6845 Castleton Drive, N. W., Atlanta, Georgia.

1952

Wayne D. Jackson is chief mining engineer with Amax Bauxite Corporation. He is in Australia to develop and operate a new bauxite mine in the Kimberly area. His address is Box S-1350 GPO, Perth, WA, Australia.

1954

Vernon D. Volker is senior production engineer with the Sun Oil Company. He formerly was with Sunray DX Oil Company that merged with his present company. He will stay in Tulsa, Oklahoma, but will leave the property acquisition department, as evaluation engineer and has the above position in the Tulsa District. His address is 7460 E. 30th Place.



William
Barbier

William Barbier has been appointed to the post of Assistant Chief Engineer for the Sporlan Valve Company of St. Louis, Missouri, one of the largest

refrigeration and air conditioning control manufacturers in the United States. He has spent 14 years in the control field of the industry as a senior design engineer and in supervising engineering activities. He is the holder of seven patents, five of which are in the refrigeration control field.

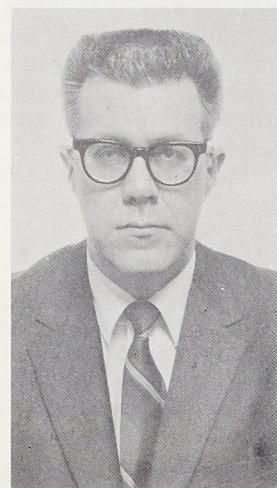
1956

Raymond E. Miller, Manager of the Augusta Corporation, Augusta, Arkansas, was chosen to receive the "Boss of the Year" award given by the Augusta Jaycees for his work in many civic and community projects and his ability as a leader.

James J. Wofford has been named manager of PPG Industries, Inc., window glass plant in Henryetta, Oklahoma. He has been assistant plant manager at Henryetta since 1967. Wofford joined PPG at Crystal City, Missouri after graduation.

1957

John T. Gerwert recently joined Ampex Corporation as General Manager and Director General of a foreign subsidiary, Ampex S. A. in Nivelles, Belgium. The subsidiary is engaged in the manufacture and distribution of electronic systems for the computer and television broadcast industry in Europe and Africa. He was previously associated with Litton Industries as Manager of Subcontract Administration and Pur-



John T.
Gerwert

chasing for the Advanced Marine Technology Division at El Segundo, California. Prior to joining Litton, Mr. Gerwert was employed by Ampex Corporation as Material Manager of the Computer Products Division in Culver City, California. He also has been associated with North American Rockwell's Space Division, Boeing Airplane Company of Wichita, Kansas and Vickers, Inc. of Joplin, Missouri in various engineering and management capacities. He and his wife, Emma Lea and two daughters, Gretchen and Elizabeth will reside in Belgium. Their home address is: 6, Avenue des Cedres Rhose, St. Genesee, Belgium.

1958

Earl E. Anspach is enrolled in Vanderbilt University, Nashville, Tennessee, in the graduate school of engineering management. He is also serving a one year internship with Ingram Contractors, Inc., Harvey, La. He will reutrn to V. U. in January 1971. His New Orleans, La., address is 4601 MacArthur Blvd., No. 17.

John O. Buchanan is chief construction engineer of the largest chemical plant in Europe and will be one of the largest in the world when completed in about 5 years. He will have almost 3,000 construction workers on the job and the initial cost will exceed \$300,000,000. He has moved his family to Germany. His address is 83 Harsefekder Str., Stade, Germany.

Major Paul W. Taylor, Corps of Engineers, U. S. Army, is one of four army officers assigned to the U. S. Naval Academy teaching in the department of engineering. Major Taylor is also working on a Ph. D. degree in operations research at Johns Hopkins University.

1959

H. E. West, Jr. recently received his Juris Doctor Degree from the University of Tulsa Law School. He is Manager — Production Planning, Econo-Therm Corporation. His address is 5616 S. Yorktown Place.

Joseph D. Vitali is vice chairman of

the Tulsa Section of the Institute of Electrical and Electronics Engineers for 1969-1970. He has been nominated for chairman of the Tulsa Section of IEEE for 1970-1971 year. He is a research engineer at the Pan American Petroleum Corporation Research Center. His address is 6977 East 20th Place.



Gerald L.
Metcalf

Gerald L. Metcalf has been appointed product market manager — color oxides. Pfizer Minerals, Pigments and Metals Division. Metcalf, a former U. S. Air Force pilot, is a Dallas, Texas, native. He joined Pfizer in 1963 as sales representative in the Boston, Mass. area. Formerly sales service manager, he comes to his new position from Detroit, where in addition to regular sales activities, he was responsible for market development of specialty color dispersions. A member of the National Paint, Varnish and Lacquer Association and of the American Chemical Society, Mr. Metcalf now lives in Huntington, Long Island.

1960

Thomas D. Burke is attending graduate school at Colorado State University. His address is 3823 Capital Drive, Fort Collins.

H. John Meyer III has accepted a position as staff metallurgist with Brush Beryllium. He will work on new processes in powder metallurgy. His address is 570 Forrest Drive, Birmingham, Alabama.

George G. Staples, who has been manager of barium and sulfide chemicals with PPG Industries, has assumed the additional management of chrome chemicals and carbon bisulfide. The Staples live in Pittsburgh, Pa., 9801 Woodland Road.

Arthur R. Troell is geologist with Pan American Petroleum Corporation, Tulsa, Oklahoma. The Troells have four children, 3 boys and a girl. Art would enjoy hearing from his former colleagues. His address is 3405 S. 94 E. Ave.

1961

Larry Dix is manufacturing superintendent, Olin Brass, East Alton, Ill. He and his wife, Glenda, reside at 4819 Cinderella Drive, Alton, Ill.

1962

E. C. "Gene" Fadler is senior development engineer with the Ford Motor Company, Dearborn, Michigan. The Fadlers have two daughters, Anne, 2½ years and Dianne, born July 12, 1969. Dianne arrived on Barbara's (Mrs. Fadler's) birthday. Gene is president of the Detroit Section of the Alumni Association. They live in Taylor, 24920 Chernick.

1964

Stephen Ombalski, Jr. project engineer with the Schiavone Construction Company, Secaucus, New Jersey, was an alumni office visitor in April. The Ombalskis have two children; Gregory, 2 years and Katrina, 4 years. Their address is 683 Dianne Court, Rahway.

John P. Shewchuk was recently transferred from San Jose, California, General Electric Atomic Power and Nuclear Fuel Plant where he was manufacturing projects manager to General Electric in Phoenix, Arizona. He is manager — Production/Processing in the Computer Equipment Department. His new address is 2 West Canterbury Lane, Phoenix.

Ray Schumacher finished his Ph. D. degree in Ceramic Science at Penn State U., in March, and is now em-

MSM Alumnus

ployed at the 3M Company in the Reflective Products Division, New Product Development Laboratory. His address is 7718 Hillside Trail, Cottage Grove, Minnesota.

J. R. Hudelson has been named to the position of Senior Engineer, in the Head Office, Shell Pipe Line Corporation, Houston, Texas. He joined Shell in 1966 and after his initial assignment, he joined the Design and Construction Electrical Group, Head Office, and then he became Division Engineer, Oklahoma Division, in 1968. His address is 9318 Beverly Hill, Houston, Texas.

1965

James P. Canner received his Ph. D. degree in Physics in 1969 and has been working at Aerovox Corporation as a research scientist since September 1969. He married the former Alicia Grazier, a registered nurse from Martinsburg, Pa., March 28, 1970. He works in the field of ceramics, capacitors and ferrites. The Canners reside at 47 Pine St., Franklinsville, N. Y.

David E. Hernard is at the U. of Illinois working toward a M. S. in Industrial Engineering with a major option in Operations Research. He was separated from the U. S. Army, as a Captain, May 3, 1969, after having served as a helicopter pilot and Signal Officer in Europe and Vietnam. During his one year tour in Vietnam he received the Distinguished Flying Cross, an Air Medal with V-device, 17 Air Medals, and a Bronze Star while serving as a helicopter gunship fire team leader for the 25th Aviation Battalion, 25th Infantry Division. Dave, his wife, Gail, and daughter, Rachel, hope to move to the St. Louis area after graduation in January 1971. Their present address is Apt. 2023-C Orchard Street, Urbana, Ill.

Captain E. Nick Henery was promoted to his present rank May 13, 1970, at ceremonies performed at Ft. Carson, Colorado. His wife, Barbara pinned on the new bars. His present assignment is Executive Officer, A Btry, 5th Bn, 80th Arty, Ft. Carson. On July 24th, he will be enroute to Vietnam for a year's tour of duty. Their address is 3615 Michigan Ave., Colorado Springs.

Dale M. (Chemistry) and Anita Louise (Physics) Kornfeld were alumni

office visitors in June. They live in Huntsville, Alabama, 712 Stanhope Drive, N.W. Dale is a chemist in research and development with National Aeronautics and Space Administration, Marshall Space Flight Center, and Anita is a housewife.

Kenneth C. Kirkland has been appointed Product Manager — Exhaust Systems for Stemco Manufacturing Company, Inc., Longview, Texas. He has been associated with a prominent truck engine manufacturer as an installation engineer.

Major Charles J. Vincent has been awarded the Bronze Star Medal (Second Oak Leaf Cluster) for outstanding meritorious service in Vietnam during the period from September 1968 to February 1969. He is now serving as R & D Coordinator in the U. S. Army Mobility Equipment Research and Development Center, Ft. Belvoir, Virginia. Entering the Army in 1957, he served in Germany, Turkey and Okinawa in addition to Vietnam. He also holds the Air Medal with Cluster, Army Commendation Medal, Marine Corp Good Conduct Medal, Senior Parachutist, and the Vietnam Parachutist Wings. He, his wife Judith and three children reside at 14462 Belvedere Drive, Woodbridge, Virginia.

Lt. Charles F. Seger III, has returned from Vietnam and has been assigned to Ft. Leonard Wood, Missouri, and is G-3 Plans Officer.

1966

Larry Gene Evans received his Ph. D. degree at Pennsylvania State University, in March, and is employed by Armco Steel Corporation, Middletown, Ohio. Dr. Evans married the former Sue Zeiner, August 2, 1969. He met Sue at Penn State and they are living at 770 Kensington Court, Apt. E-7, Arlington Arms, Middletown.

Charles J. Price, project service engineer - electronics, McDonnell-Douglas Corporation, is in Uron, Thailand where he has been supporting a new electronic navigation weapons system since August 1969. He does not anticipate returning to St. Louis, Mo., before January 1, 1971. His mailing address is Box 1011, APO, San Francisco, California 96304.

Harvey F. Wildschuetz is now employed by the City Water, Light and Power Department of Springfield, Illinois. He will be engaged in the design of new construction and will work as staff assistant to the general superintendent. He has been associated with Burns & McDonnell Consulting Engineering Company of Kansas City, Missouri, where he did considerable design work as well as field supervision on several major power projects including Springfield's Eastdale interconnection substation and similar installations in Provo, Utah. Currently he is residing at 160 Forest Avenue, Lot 20, Springfield, Illinois.

2nd Lt. James W. Bedwell



2nd Lt. James W. Bedwell has been awarded silver pilot wings upon graduation at Webb AFB, Texas, and he will remain for training as a T-37 pilot.

2nd Lt. Dennis M. Fitzgerald



Dennis M. Fitzgerald has been commissioned a U. S. Air Force second

lieutenant after graduation from OTS at Lackland AFB, Texas.

Charles R. McDuff, Route 3, Box 419, House Springs, Missouri, was ordained June 4, 1970, in services directed by Bishop Eugene Frank of the Missouri Area, United Methodist Church, and is pastor of the Faith United Methodist Church, House Springs, Mo.

1967

Captain Charles E. Perez, Jr. is commanding Officer, 560th Lt. Maintenance Company, in AnKhe Run. He passed an AGI inspection March 19, 1970, support of non-divisional units in An Khe area. His address is APO San Francisco, California 96492.

Gail Davidge Kettenbrink has completed her Master in Science Education and is teaching earth science in Cosgrove Junior High School, Oxford, Iowa. Her address is 320 North Johnson Street, Iowa City.

John L. Newcomb has been appointed sales engineer - petroleum additives, New York District Sales Office, Amoco Chemical Corporation. He joined Amoco after graduation. His new address is 665 N. Lake Drive, Lakewood, N. J.

1st Lt. John W. Peery has received the Bronze Star Medal award in Vietnam. It was presented in connection with military operations against hostile forces while assigned as officer in charge of the telephone communications section of the plans and operations division of the U.S. Army Strategic Communications Command's Regional Communications Group near Saigon. He also holds the Army Commendation Medal.

Army Specialist 5 Donald G. Naegar has also received the Army Commendation Medal while serving with the 168th Engineer Battalion near Phu Loi, Vietnam.

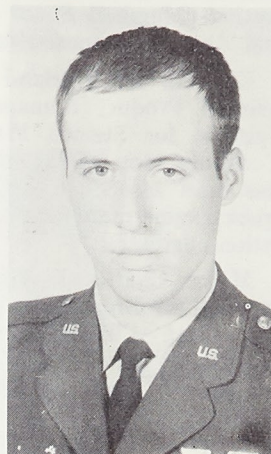
1st Lt. Thomas J. Fritzinger is assigned at Fairchild AFB, Wash. He is a pilot with the 43rd Air Refueling Squadron, a unit of the Strategic Air Command, America's nuclear deterrent force of long range bombers and inter-continental ballistic missiles.

1968

2nd Lt. William K. Meeker has been awarded U.S. Air Force pilot wings

upon graduation at Laughlin AFB, Texas. His assignment is with a unit of the Air Training Command and will fly the T-37 jet trainer aircraft.

2nd Lt.
Thomas
J.
Meeker



2nd Lt. Thomas J. Sears has received his U.S. Air Force silver pilot wings

2nd Lt.
Thomas J.
Sears



upon graduation at Laughlin AFB, Texas. After specialized aircrew training at Fairchild AFB, Wash., he will be assigned to McChord AFB, Wash., for flying duty on the C-141 Starlifter cargo-troop carrier.

2nd Lt. Gerald J. Steele recently completed a 16-week helicopter pilot course at the Army Primary Helicopter School, Ft. Wolters, Texas. He will undergo advanced flight training at the Army Aviation School, Ft. Rucker, Alabama.

2nd Lt. David M. Fallert received his commission at Lackland AFB,

Texas, and was assigned to Mather AFB, California, for navigator training.

2nd Lt.
David
M.
Fallert

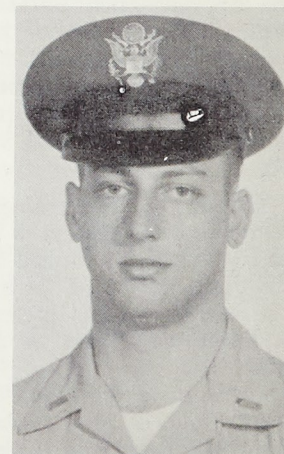


Lt. j. g. Bill Murray, CEC, USNR, has received orders indicating he will be officer in charge of a seabee team deploying to RVN in October 1970 to July 1971. Seabee teams are 13 men strong and are the Navy's "Peace Corps" in helping RVN learn construction trades and better their way of living. His address is USN MCB 3, Seabee Team 0319, FPO, San Francisco, California 96611.

1969

Frederick N. Bondurant has been commissioned a second lieutenant in the U.S. Air Force upon graduation from Officers Training School at Lackland AFB, Texas. He is being assigned to Larado AFB, Texas.

2nd Lt.
Frederick
N.
Bondurant



James R. Bruzewski has been commissioned a second lieutenant in the

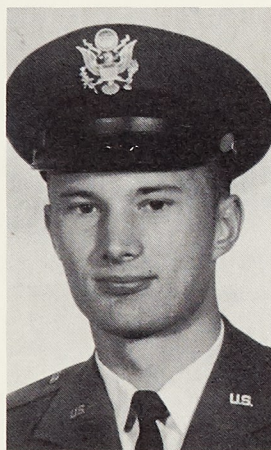
MSM Alumnus

2nd Lt. James
R.
Bruzewski



U.S. Air Force upon graduation from Officer Training School at Lackland AFB, Texas, and has been assigned to Moody AFB, Ga., for pilot training.

2nd Lt. David
L.
Gray



David L. Gray has been commissioned a second lieutenant in the U. S. Air Force upon graduation from Officer Training School at Lackland AFB, Texas. His assignment is Mather AFB, California, for navigator training.

1970

Lt. T. J. Kwiecinski and his bride, Christine, are now stationed at Ft. Benning, Georgia, temporarily. His home address is 101 Bush Street, Buffalo, N. Y.

2nd Lt. Michael L. Buck received his commission at OTS Lackland AFB, Texas, and was assigned for pilot training at Laredo AFB, Texas.

2nd Lt. Thomas M. Leirer, Jr., was also commissioned at Lackland AFB, Texas, and his assignment is Reece AFB, Texas, for pilot training.

MSM Alumni Association

OFFICERS

Term Expires

President	James J. Murphy '35	Murphy Company	1971
		4376 Olive Street, St. Louis, Missouri 63108	
Executive Vice-President	Peter F. Mattei '37	Exec. Director, Metropolitan Sewer Dist. ..	1971
		2000 Hampton, St. Louis, Mo. 63139	
Vice-President Areas 1, 2, 3	Lawrence A. Spanier '50	370 Old Country Road	1971
		Garden City, New York 11530	
Vice-President Areas 4, 5, 6	Joseph W. Mooney '39	7383 Westmoreland	1971
		University City, Missouri 63130	
Vice-President Areas 7, 8, 9	William B. Fletcher '34	7515 Yankey St.	1971
		Downey, California 90242	
Secretary-Treasurer	Dr. Thomas R. Beveridge '42	Department of Geological Engineering	1971
		UMR, Rolla, Missouri 65401	
Executive Secretary	Francis C. Edwards	MSM Alumni Association, Grzyb Building,	
Editor, "MSM ALUMNUS"		9th & Rolla Streets, Rolla, Missouri 65401	
Field Secretary	Frank H. Mackaman	MSM Alumni Association, Grzyb Building,	
		9th & Rolla Streets, Rolla, Missouri 65401	

DIRECTORS AT LARGE

Hans E. Schmoltdt '44	3305 Woodland Road, Bartlesville, Oklahoma 74003	1971
James A. Vincent '37	3721 Neptune Drive, Orlando, Florida 32804	1971
Rex Z. Williams '31	Rolla State Bank, Rolla, Missouri 65401	1971

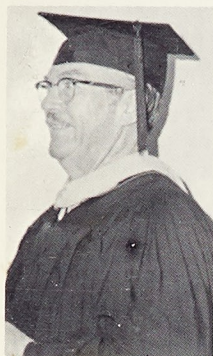
AREA DIRECTORS

Area No.	Director	States and Provinces Embraced	Term Expires
1.....	John B. Toomey '49	New England, N. Y., N. J., East Pa.	1970
	7412 Admiral Drive	Dist. of Columbia, Md., Va., Delaware,	
	Alexandria, Virginia 22301	Province of Quebec	
2.....	Dr. Larry E. Farmer '61	S. Ark., N. C., S. C., La., (Miss.,	1972
	Box 453	Ala., Ga., Fla.	
	Social Circle, Georgia 30279		
3.....	O. W. Kamper '35	Pennsylvania, W. Va., Ohio, W. Pa.,	1972
	5 Woodland Drive	Ky., Tenn., Ind. (Except	
	Pittsburgh, Pennsylvania 15228	Chicago Industrial Area)	
4.....	Frank C. Appleyard '37	N. Ill., Chicago Industrial Area	1972
	808 Solar, Glenview, Illinois 60025	in Indiana, Wisc., Mich., Minn.,	
		Province of Ontario	
5.....	Richard H. Bauer '52	S. Ill., E. Mo., N. Ark.	1970
	5 Sappington Acres Drive		
	St. Louis, Missouri 63126		
6.....	John A. Walker '50	Iowa, W. Mo., Nebr., Kan., Okla.	1971
	Armco Steel Corp., 7100 Roberts,		
	Kansas City, Missouri 64125		
7.....	Robert M. Brackbill '42	Texas, Arizona, New Mexico	1970
	Texas Pacific Oil Company		
	1700 One Main Place		
	Dallas, Texas 75250		
8.....	George J. Decker '39	Ida., Montana, N. D., S. D.,	1972
	Star Rt. 2, Box 340	Wyo., Colo., Nev., Utah,	
	Evergreen, Colorado 80439	Provinces of Manitoba, Sask., Alberta	
9.....	E. Murray Schmidt '49	Alaska, Washington, Oregon,	1970
	3011 Marina Drive	California, Hawaii	
	Alameda, California 94501		

EX-OFFICIO DIRECTORS

H. H. Hartzell '06	F. C. Schneeberger '25	Melvin E. Nickel '38
1301 Cleveland,	No. 1 Briar Oak,	10601 South Hamilton Avenue,
Baxter Springs, Kansas 66713	Ladue, Missouri 63132	Chicago, Illinois 60643
R. O. Kasten '43	Dr. Karl F. Hasselmann '25	Paul T. Dowling '40
901 West 114th Terrace	3100 W. Alabama, Suite 207	139 Frontenac Forest,
Kansas City, Missouri 64114	Houston, Texas 77006	St. Louis, Missouri 63131
Harry S. Pence '23	Dr. Mervin J. Kelly '14	James W. Stephens '47
17 Cambridge Ct.,	2 Windemer Terrace,	406 East Third,
Glendale, Missouri 63122	Short Hills, New Jersey 07078	Lee's Summit, Missouri 64063

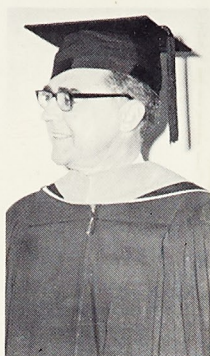
Professional Degree Recipients



Henry E. Zoller



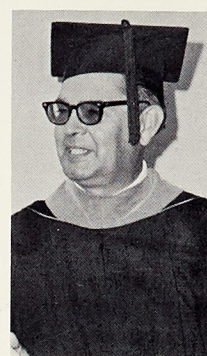
Charles O. Koch



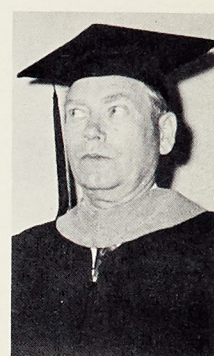
C.F.P. Stueck



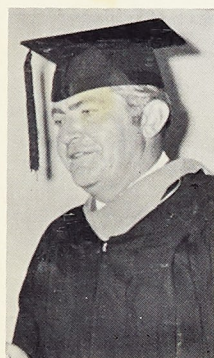
O. Morris Sievert



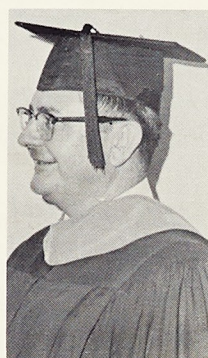
Bob L. Mornin



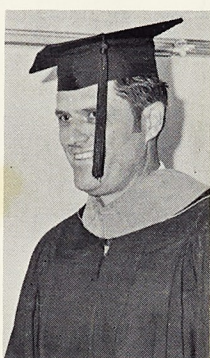
Samuel P. Halcomb



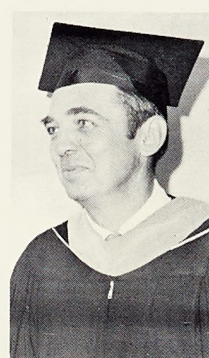
George E. Gregg



Donald G. DeBolt



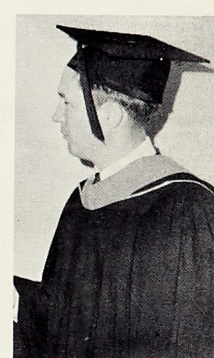
Charles A. Kunz



Richard P. Ketter



Arthur G. Baebler



George T. Tomazi

Twelve Alumni who have made outstanding contributions to engineering were awarded professional degrees at the commencement exercises, May 31.

The recipients, their titles and the type of professional degrees they received were: Donald DeBolt '49, manager, Product Marketing, Utility Systems Division, A. B. Chance

Co., Centralia, Mo., Electrical Engineer. Samuel Halcomb '48, head of the Stress Analysis Section, American Car and Foundry Co., St. Charles, Mo., Engineering Mechanics. Arthur Baebler '55, manager area development department, Union Electric, St. Louis, Mo., Engineering Manager. George D. Tomazi '58, executive vice president, St. Louis Research Council, St. Louis, Mo., Electrical Engineer. C. F. P. Stueck '43, assistant vice president, Stupp Brothers Bridge and Iron Co., St. Louis, Mo., Civil Engineer. O. Morris Sievert '44, executive vice president, Solar Division, International Harvester Co., San Diego, Calif., Mechanical Engineer. B. L. Mornin '48, vice president and general manager, Container Division, Coors Porcelain Co., Golden, Colo., Ceramic Engineer. Charles O. Kunz '50, international director, specialty heat exchange operation, Brass Division, Olin Mathieson Corp., East Alton, Ill., Metallurgical Engineer. George E. Gregg '48, group supervisor, engine systems design group, Boeing Company, Wichita, Ks., Aerospace Engineer. Richard Ketter '51, chief engineer of the mining department engineering division, Bethlehem Steel Corp., Bethlehem, Pa., Engineer of Mines. Charles O. Koch '41, administration director, Mobay Chemical Company, Pittsburgh, Pa., Chemical Engineer. Henry E. Zoller '23, independent oil producer and contractor, San Antonio, Texas, Petroleum Engineer.

MSM ALUMNI ASSOCIATION

University of Missouri - Rolla

ROLLA, MISSOURI 65401

TO

Dr. C. V. Mann
506 East 6th Street
Rolla, Missouri 65401